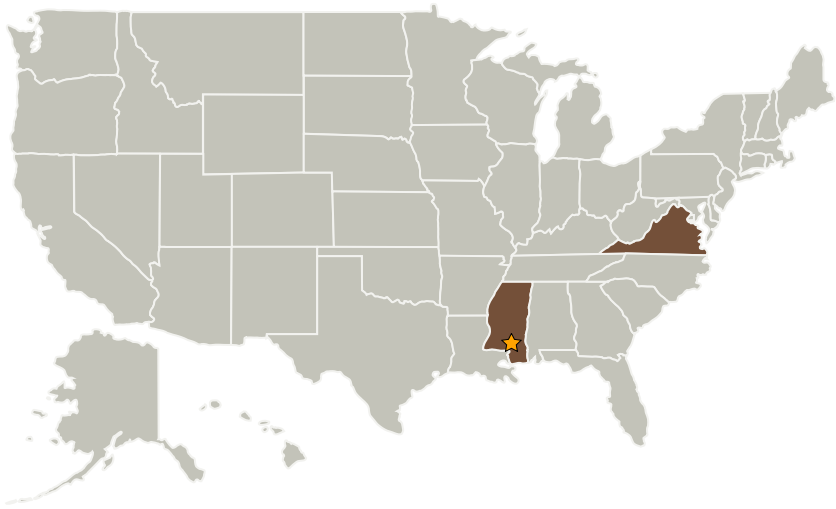
Distributed Wireless Sensor Data Acquisition and Control System, Phase II

Completed Technology Project (2006 - 2008)

Project Introduction

Combining smart sensor with wireless technology is a compelling addition to structure a large-scale smart sensor networks for real-time data acquisition, distributed detection and estimations. This requires a distributed data acquisition and control system containing edge-sensing devices to interact with different types of sensors, which poses significant challenges to the system architect. Mobitrum is proposing an innovative solution to fill the gap between sensing devices and data acquisition system by offering an end-to-end architecture and methods to interface with edge devices and to present data that they generated. The effort includes: (1) Object-oriented approach to interfaces with standard-based smart sensors and smart transducer interface modules (STIM), (2) Advanced intelligent data acquisition and control, (3) Sensor health assessment, (4) Data management and intelligent sensor fusion across local and mobile computational platforms. The significance of the innovation is that the new system can significantly lower the cost and increase the capabilities to improve remote testing and safety assurance.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
Mobitrum Corporation	Supporting Organization	Industry	McLean, Virginia

Primary U.S. Work Locations	
Mississippi	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.2 Avionics Systems and Subsystems
    - TX02.2.6 Data Acquisition Systems